The work of Mr. Armitage is of a different order, and, to the extent that it is original, is, we regret to say, a very immature production. It shows few traces of independent inquiry, but is obviously based in large measure on that of von Meyer, and in general treatment follows that work pretty closely. Now and again, however, Mr. Armitage seeks to be original rather in mode of expression than in the compilation of facts, but he only succeeds in being obscure, and his attempts at epigram and "fine writing" usually end in bathos. What, for example, is the precise meaning and value of the statement, "Even during that stage of transition which separated him from the brute creation, man must have appreciated the beneficial or harmful effect of many naturally occurring substances"? Quite true, no doubt, but the brute creation itself with equal certainty had this degree of appreciation of what was beneficial or harmful. But Mr. Armitage argues that in this appreciation we had the dawn of chemistry! What, too, is meant by saying that "Aristotle maintained the four elements earth, air, fire and water." Of the philosopher's stone it is said, "But it was not till later that its full powers, transmuting and medicinal, obtained recognition." Considering that the philosopher's stone was a myth, could its full powers ever obtain recognition? Again, "the sulphurous smell observed on the calcination of tin was very cogent evidence of the presence of sulphur." Is it quite certain that there is a sulphurous odour when tin is calcined? What, too, is meant by saying, "Hoffmann's attitude was not, however, maintained by any attempt at practical verification, and was, moreover, devoid of the unifying intent of Stahl"? Of Priestley and Cavendish it is said, "Their outward circumstances were as diverse as their inner consciousness." This is said of Lavoisier:—"The way of progress had been groped for long, the times were ripe for its discovery, and Lavoisier was their chosen agent."

We further read of Lavoisier:—"Complete success had awarded his efforts; and the weapons he had forged, of homage to experimental fact and scepticism of so-called established truths, were become the common property of scientific men."

Of Vauquelin we read:—"His work on the separation of the rare metals platinum, palladium, rhodium, indium, and osmium shows us how far the horizon had receded." The horizon must have receded very far indeed if it included indium in the time of Vauquelin. It has hitherto been supposed that indium was not discovered until 1863.

With respect to the attitude of Berzelius towards Dalton's hypothesis we read:—"Berzelius, in reviewing the whole subject, became oppressed with the unscientific slapdash manner in which it has been approached by his contemporaries." This is precisely the feeling with which we review Mr. Armitage's book; on reading it we too are oppressed with the unscientific slapdash manner in which the author has approached the whole subject of the history of chemistry.

MONASTICISM.

Essays upon the History of Meaux Abbey and Some Principles of Mediaeval Land Tenure. Based upon a Consideration of the Latin Chronicles of Meaux (A.D. 1150–1400.) By Rev. A. Earle. Pp. 192. (Hull and London: Brown and Sons, Ltd., 1906.)

THE author of this volume is, we apprehend, a curate of Nafferton-with-Wansford, in Yorkshire, who, having obtained an exhibition at St. John's College, Cambridge, for ecclesiastical history, has not neglected the subject in which he obtained distinction. We welcome all such additions to the skeleton army of genuine students of antiquity, but Mr. Earle has his spurs to win and his authority to establish, for it is not to be assumed that he learnt much about monastic chartularies and chronicles at Cambridge. We make this preliminary remark because Mr. Earle has not fortified his observations by marginal references to authority; he has written no preface, and has supplied no index. We presume these essays are intended for his neighbours, and are the result of notes for lectures on the subject of an interesting abbey to the chapter of which the author's church belonged.

The book is in two parts, the former containing eight chapters on the origin of the abbey and its influence on the surrounding country as imagined by the author, the latter containing six chapters on principles of land tenure. The essays are stated to be based on "a consideration of the Latin Chronicles of Meaux, 1150–1400, and in the margins are placed dates which are references to volume and page of the Chronicles as published by the Record Office." We presume the Master of the Rolls' series is meant. Having ascertained the scheme of the book we sought for a preface, in order to learn whether the author made an independent study of the chronicles and whether the observations and reasoning are his own. But there is no preface, and we are thus unable to satisfy a reasonable curiosity. The fact is that the Master of the Rolls published the chronicles of Melsa, or Meaux, in three large octavo volumes, 1866–8, the editor being Edward Bond, keeper of the manuscripts in the British Museum, and to each volume Mr. Bond contributed a long and very learned preface. Mr. Earle ought surely to have explained whether his interesting narrative is or is not entirely derived from Mr. Bond. In the absence of such explanation we must presume that it is, and we regard the volume before us as an excellent abstract of three long treatises by a learned author. We have, after much consideration, concluded that Mr. Earle's work, easy of perusal and rather colloquial in style, presents a fairly accurate picture of human society in Holderness, as affected by one of many great institutions, religious in their origin, but commercial in practice.

The abbey was founded by William le Gros, Earl of Albemarle, Lord of Holderness, in the year 1150, as the condition of being released from a vow to make a pilgrimage to Jerusalem. The monk who influenced the earl was Adam, of the Cistercian Abbey of Fountains, who had much to do with the foundation of that

great house, and he obtained the Papal dispensation vacating the vow from Eugenius III., then living in France, according to this chronicle.

The abbey being established and possessed of a fair estate—the original wooden buildings replaced by stone—Mr. Earle attempts to describe the state of the surrounding country and inhabitants. Although he occasionally uses a doubtful expression, such as "the rich riding in carriages," his description seems to us good. But when the relations of the rich and poor are summarised in such words as the poor man "could not resist the Lord in the Lord's own Manor Court," the impression is produced that the author has made little study of ancient courts. The appalling results of the Black Death are well indicated, and the more this terrible period is examined the more exalted do the monks, nuns, and priests of England appear.

The essays on mediæval land tenure contain much debatable matter, and many statements which, without reference to authority, we cannot accept, as, for example, that the right to "common of pasture" could be alienated.

We have not space to discuss such questions, and must limit our concluding remarks to the fifth chapter. Here Mr. Earle states his views on the nature of bondmen, and cites the curious case of Adam, son of Ivo Grise, drawing the inference that the descendants of a bondman could at any distance of time be claimed by the heirs of the original lord. The facts stated are hardly sufficient to support so large an inference, but it certainly does seem that when the abbey acquired land from a "nativus" or his son it was thought desirable to complete the title by purchasing the claim of the lord.

It is not, of course, possible to treat with perfect accuracy an antiquarian subject within the limits of a small volume of less than two hundred pages, but we can commend Mr. Earle's essays to the general public, as they are well written with proper sympathy with an old order now for ever passed away.

THE PLANTS OF KUMAON.

Catalogue of the Plants of Kumaon and of the Adjacent Portions of Garhwal and Tibet. By Lieut.-General Sir Richard Strachey, G.C.S.I., &c., revised and supplemented by J. F. Duthie. Pp. vii+271. (London: Lovell Reeve and Co., Ltd., 1906.)

THIS catalogue is based on the collections made between the years 1846 and 1849, in the province of Kumaon and the adjoining parts of Garhwal and Tibet, by Lieut. (now Sir Richard) Strachey and Mr. J. E. Winterbottom. The collection was principally made along a line extending through the province of Kumaon across the Himalaya in a south-westerly to north-easterly direction, over a distance of eighty or ninety miles, from the plain of Rohilkhand at about 1000 feet above sea-level, to the Tibetan plateau at an altitude of 14,000 feet to 15,000 feet on the upper course of the River Sutlej. The collection, generally known as the Strachey and Winterbottom Herbarium, included more than 2000 species, and sets of the plants were presented more than fifty years ago to the important herbaria in this country and abroad, together with a provisional catalogue. The present catalogue includes, besides the species represented in the original Strachey and Winterbottom herbarium, the results of previous and subsequent botanical exploration of the area from the time of Wallich, Royle, Falconer, Thomson, and others up to a comparatively recent period. Among the more important recent contributions to our knowledge of the Kumaon flora are the large collection made by the late Colonel Anderson, chiefly in the vicinity of Naini-tal, and the results of the extensive botanical explorations made by Mr. Duthie during his term of residence as Government botanist in the North-West Provinces.

Including a small number of cryptogams, the flora of Kumaon, as represented in the catalogue, contains 3043 species, representing 1084 genera. No fungi or algæ are included, and only fifty genera of lichens; hence much remains to be done to give an adequate idea of the flora so far as cellular cryptogams are concerned. On the other hand, we may regard the representation of the flowering plants as fairly complete. Mr. Duthie makes a comparison with the flora of China on the one hand and of Britain on the other. Of the 137 natural orders of flowering plants represented in Kumaon, 134 are found in China and 84 in Britain; of the 983 Kumaon genera, 812 occur in China and 287 in Britain; and of the 2672 Kumaon species, 1079 are Chinese and 226 British. The most predominant order in the area concerned, as estimated by number of species, is Gramineæ (226 species), followed by Compositæ (211 species), Leguminosæ (204 species), and Orchideæ (161 species). In the Eastern Himalaya and in British India as a whole, Orchideæ occupy the first place, with Gramineæ and Leguminosæ taking the second and third and third and second places respectively in the two areas concerned, while Compositæ stands fourth in the Eastern Himalayas, and seventh in the whole of British India. For the whole world Compositæ stands first, Leguminosæ second, Orchideæ third, and Gramineæ fifth.

The arrangement of the orders, genera, and species of the flowering plants is in accordance with that adopted in the "Flora of British India." The ferns were named and arranged by the late Mr. C. W. Hope; and the Bryophyta by Mr. C. H. Wright, following the plan adopted by Mr. Mitten in 1859. The method of the catalogue is a tabular one; for each species or variety, there are indicated in a series of parallel columns the habit of growth, colour of flower, time of flowering, locality, elevation, and occurrence respectively in the Himalayas (rainy or dry), Tibet, China, and Britain. The book as a whole forms a remarkably clear and concise review of the flora of an eminently interesting district of the Western Himalayas. A useful appendix is given in the form of a list comprising the determinations of the numbers in the Strachey and Winterbottom Herbarium according to the original catalogue and their equivalents in the present volume. Some of the changes are due to alterations of nomenclature, others to a more thorough investigation of the plants. A. B. R.